ARC-19012
4 Channel NTSC/PAL Hi-Resolution Quad Processor

User's Manual

ArcVision Technology Cotp.

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1. Introduction

Features:

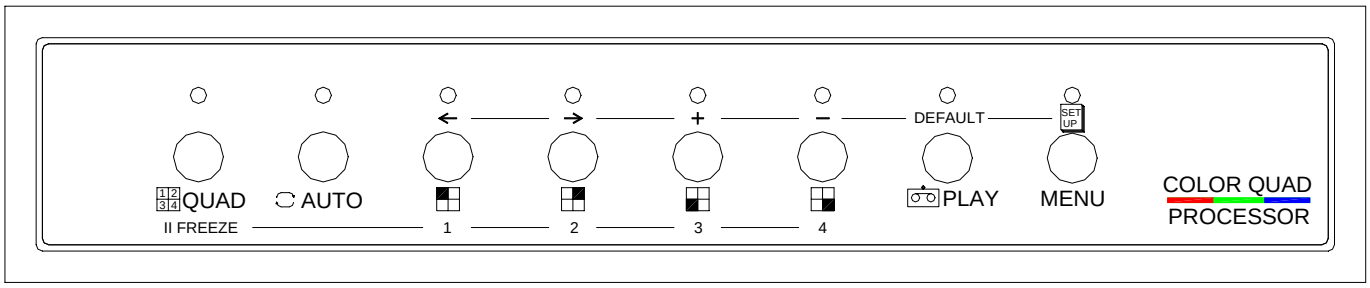
- ❑ Automatically Selects NTSC or PAL system.
- ❑ Adopt E.A.L. (Erase Asynchronous Line) technology for best image quality.
- ❑ Full Duplex, records quad-image and displays VCR tape simultaneously.
- ❑ Built-in Color-Bar generator enables you to calibrate the monitor easily.
- ❑ Smart auto switcher, random sequence and dwell time are supported.
- ❑ Automatically detects unconnected channel and skips that channel in auto-switch mode.
- ❑ Provides VCR-IN to support 2×2 Zoom-in and Freeze function for playback.
- ❑ Freeze individual quadrant function.
- ❑ Video signal loss detection, produces sound by built-in buzzer.
- ❑ Automatically keeps the last image when video loss occurs.
- ❑ OSD shows date, time, and channels .
- ❑ Built-in timer and title generator.
- ❑ Independent title setting, up to 8 characters, for every channel.
- ❑ Supports 3 character colors.
- ❑ User-friendly OSD set-up menu and front panel design.
- ❑ High quality video encoder with 10-bit resolution D/A converter.
- ❑ High quality video decoder with 10-bit resolution A/D converter.
- ❑ Full quad display at real time refresh rate. (60 fields/sec.)
- ❑ 16 million true colors.
- ❑ Independent bright, contrast, color and sharpness adjustments for every channel.
- ❑ Built-in four 2H adaptive comb filters for Y/C separation to get sharp image quality.
- ❑ Built-in cross color reduction filter to improve image quality.
- ❑ No border for full quad display.
- ❑ A compact COLOR QUAD PROCESSOR that saves space.
- ❑ Low power consumption can save up to 50% in power costs.

2. Specification

Refresh rate	NTSC : 60 fields/sec, PAL : 50 fields/sec
Resolution (H × V)	NTSC : 860×525, PAL : 860×625 (CCIR-601 standard)
Video input port	BNC×4 cameras + BNC×1 VCR play inputs
Video output port	BNC×1 Monitor out, BNC×1 VCR Record out
Video output signal	1 Vp-p / 75Ω CVBS out
Video output format	Full/Quad/Freeze/Auto switch programable
Video freeze duration	From 1 sec to 99 sec.
Title generator	Up to 8 characters each channel
Timer generator	Built-in real time clock
Dimension	218(W)× 202(D)× 44(H) mm
Power source	DC 9V ~ 12V
Power consumption	6W(max), 410mA@12V

3. Operation Description

3.1 Front Panel Keypads



		MODE				
		NORMAL	**AUTO**	**FREEZE**	**PLAYBACK**	**MENU SETUP**
		"quad" or Chx LED on only	"auto" LED on	"quad" LED flash	"play" LED on	"menu" LED on
KEY	**QUAD**	Quad display / ➠ freeze mode	➠ normal mode & Quad display	➠ normal mode & Quad display	VCR_In display	
	AUTO	➠ auto mode				Change character color
	1	Ch1 full display	➠ normal mode & Ch1 full display	Freeze/Release Ch1 image	Freeze/Release 2x2 Ch1 image	Move cursor left ◂
	2	Ch2 full display	➠ normal mode & Ch2 full display	Freeze/Release Ch2 image	Freeze/Release 2x2 Ch2 image	Move cursor right ▸
	3	Ch3 full display	➠ normal mode & Ch3 full display	Freeze/Release Ch3 image	Freeze/Release 2x2 Ch3 image	Increase value +
	4	Ch4 full display	➠ normal mode & Ch4 full display	Freeze/Release Ch4 image	Freeze/Release 2x2 Ch4 image	Decrease value -
	PLAY	➠ playback mode	➠ playback mode		➠ normal mode & Quad display	
	MENU	➠ menu mode	➠ menu mode			Next page / ➠ normal mode

Notice:

1. *User can reset the value of the menu setting to the default value by the following procedure :*
   Step 1 : press [*MENU*] *button to turn MENU LED on.*
   Step 2 : press [*PLAY*] *button first and don't release, then press* [*MENU*] *button.*
2. *User can switch NTSC/PAL system manually by the following procedure :*
   Step 1 : press [*MENU*] *button to turn MENU LED on.*
   Step 2 : press [*QUAD*] *button first and don't release, then press* [*MENU*] *button.*

3. *User can enter FREEZE mode by pressing QUAD button again when the "quad" LED is turned on in NORMAL mode. Then the "quad" LED will flash until the processor returns to NORMAL mode.*
4. *NTSC / PAL system automatic detection is through camera 1 only when powered up. If camera 1 is not connected, the processor's system configuration will recall the system used when powered off last time.*
5. *Buttons + or - need only to be hold down to continuously increase or decrease value. If the button is pressed for less than 1 sec. , the value will increase or decrease by one. Buttons ◄ and ► are similar to + or - buttons , but moving cursor left or right.*
6. *E.A.L. technology can only be enabled automatically in Normal mode.*

3.2 Set Menus

Press the MENU key to go into the following setting pages：1. SYSTEM SETUP, 2. MISC. SETUP, 3. B.C.S.S. SETUP

①. '◄' and '►' key：Use these keys to move the cursor to the position where you want to change the value.

②. '+' and '-' key：Use these keys to change the value.

3.2.1 Page 1 - SYSTEM SETUP PAGE

```
 - - - - - - DATE/TIME SETTING - - - - -
DATE FORMAT :   YY / MM / DD
DATE   :      ON    99 / 11 / 16
TIME   :      ON   14：32：17
LOCATION   :  LEFT   TOP
- - - - - - - - - - - - TITLE - - - - - - - - - - -
CH1 :      ON     <       1       >
CH2 :      ON     <       2       >
CH3 :      ON     <       3       >
CH4 :      ON     <       4       >
- - - - - - - - TEST PATTERN - - - - - - -
NTSC   COLOR   BAR   :   OFF
```

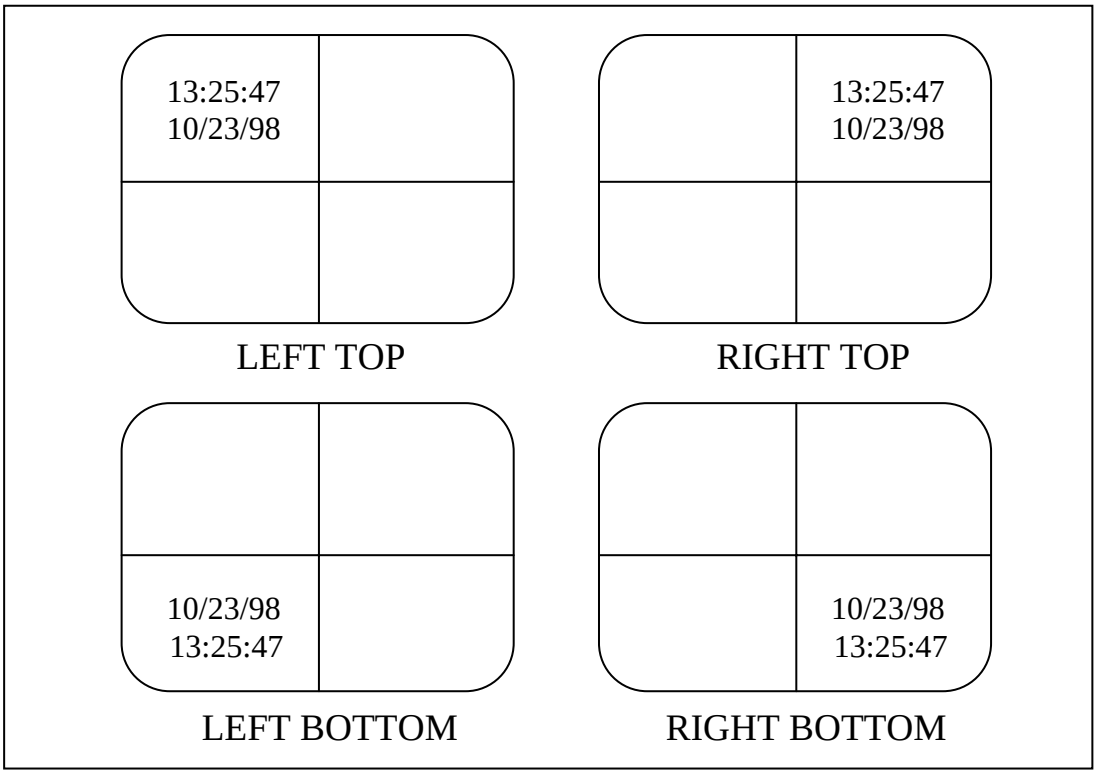
A. DATE / TIME SETTING:
DATE data format is YY/MM/DD, where

YY	:	Year data from 00 to 99
MM	:	Month data from 01 to 12
DD	:	Day data from 01 to 31

TIME data format is HH-MM-SS, where

HH	:	Hour data from 00 to 23
MM	:	Minute data from 00 to 59
SS	:	Second data from 00 to 59

1. DATE FORMAT : There are two kinds of DATE format, they are :
   a. YY/MM/DD
   b. MM/DD/YY
2. DATE/TIME ON/OFF : enables or disables the DATE and TIME displays respectively.
3. LOCATION : Four display positions can be selected.



Date/Time Display Position

B. TITLEs
   1. TITLE ON/OFF : enables or disables CHx display.
   2. TITLE NAME : input any title to name channel. (up to 8 characters)

C. TEST PATTERN : Color-Bar enables user to calibrate the monitor.

3.2.2 Page 2 – MISC. SETUP

```
SEQUENTIAL  SWITCH  MENU
SEQUENCE  :
    Q  1  2  3  4  -  -  -
DWELL TIME  :
    3  3  3  3  3  3  3  3  SEC

- - - - - - - - - - - - - - - - - - - - - - - - - - - - -

BUZZER  :  ON              01  MIN
FREEZE HOLD TIME  :    30  SEC
DUPLEX MODE  :  HALF
```

A. SEQUENTIAL SWITCH SETTING
   1. SEQUENCE :
      There are 8 positions you can select ('1','2','3','4','Q' or '-') to setup a random switching sequence. Where ‘1’ – Ch1, ‘2’ – Ch2, ‘3’ – Ch3, ‘4’ – Ch4, ‘Q’ – Quad, ‘-‘ – Skip
   2. DWELL TIME :
      Set switching interval time corresponding to each sequence position. (1~9sec.)

B. MISC. SETTING :
   1. BUZZER :
      a. ON/OFF：Set to decide whether buzzer will sound or not.
      b. Time：The buzzer will sound for the time period you set.
   2. FREEZE HOLD TIME :
      The processor will automatically return to NORMAL mode after the time period you set elapses.
   3. DUPLEX MODE :
      HALF DUPLEX – user ***cannot*** record quad-image and display VCR tape simultaneously, but the 2×2 Zoom-in function is ***available***.
      FULL DUPLEX – user ***can*** record quad-image and display VCR tape simultaneously, but the 2×2 Zoom-in function is ***not available***.

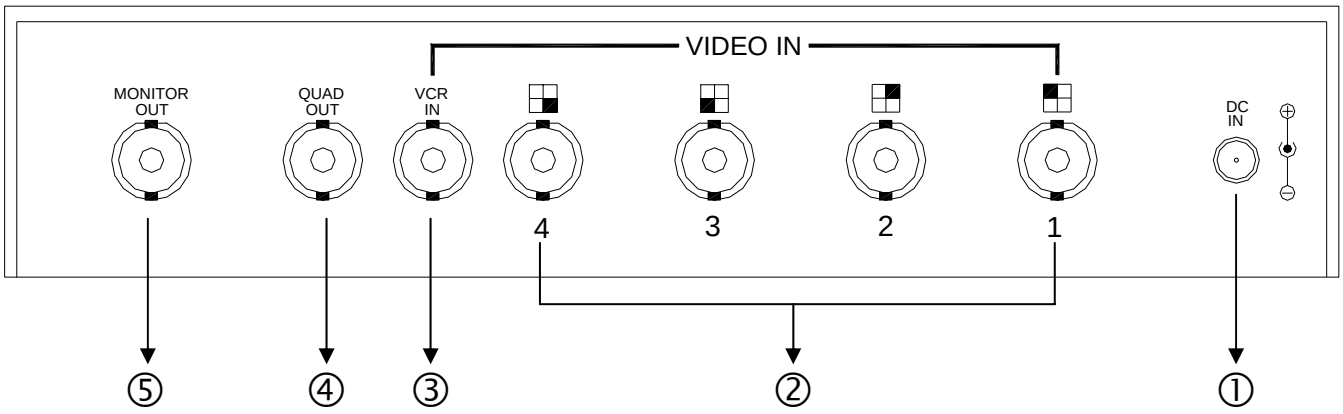
3.2.3 Page 3 – B.C.S.S. SETUP

```
BRIGHT     13   BRIGHT     13
CONTRAST   46   CONTRAST   46
CHROMA     32   CHROMA     32
SHARP      20   SHARP      20


BRIGHT     13   BRIGHT     13
CONTRAST   46   CONTRAST   46
CHROMA     32   CHROMA     32
SHARP      20   SHARP      20
```

User can adjust the brightness, contrast, color saturation (chroma) and sharpness for each channel independently.

4. Back Panel Connection



①-DC POWER IN

Please use the specified power adapter : DC 12V/500mA

②-VIDEO IN

There are four video input jacks for connecting with the cameras.

③-VCR IN

This jack is used for playback of any video you record.

④-QUAD OUT

This jack is used to connect the VCR recorder.

⑤-MONITOR OUT

This jack is used to connect the monitor.

5. Installation